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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/722,166 | 11/26/2003 | Hitoshi Kudo | 123733 | 7518 |
| 7055 | 7590 | 04/27/2006 | EXAMINER | |
| GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191 | | | LEUNG, JENNIFER A | |
| | | | ART UNIT | PAPER NUMBER |

1764

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|-----------------------------------------------------------------|-------------------------------|-----------------------------|--|
| Advisory Action Before the Filing of an Appeal Brief | Application No. 10/722,166 | Applicant(s) KUDO ET AL. | |
| | Examiner Jennifer A. Leung | Art Unit 1764 | |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 07 April 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☒ The Notice of Appeal was filed on 17 April 2006. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed ^{claim} amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: 1-29.
Claim(s) objected to: _____.
Claim(s) rejected: 30-44.
Claim(s) withdrawn from consideration: ____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☒ Other: See Continuation Sheet.

Also, see PTO-892, attached.

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Continuation of 11.

The request for reconsideration has been considered, but it does not place the application in condition for allowance for the same reasons set forth in the Final Office Action.

A summary of the current issues in the application are as follows:

- i) Whether Applicants have support in the original disclosure for the newly claimed limitation of an outside surface of the CO oxidation unit to be cooled, only, by raw material; wherein the raw material is comprised of the material to be reformed, such as a hydrocarbon.
- ii) Whether Applicants have support in the original disclosure for the newly claimed limitation of an outside surface of the CO oxidation unit being cooled, only, by water.

The newly added claims, as well as the newly added lines in the specification, specifically call for the water and the raw material to be mutually exclusive. In particular,

Claim 30, lines 14-16, recites:

... said CO oxidation unit including an outside surface, and being arranged to be cooled by atmospheric, raw material or water cooling of the outside surface...
(emphasis added).

Claim 40, lines 1-2, (which depends from claim 30) recites:

... said CO oxidation unit is arranged to be cooled by raw material cooling of the outside surface...

Claim 41, lines 1-2, (which depends from claim 30) recites:

... said CO oxidation unit is arranged to be cooled by water cooling of the outside surface...

Claim 42, lines 20-21 recites:

... said CO oxidation unit including an outside surface, and being arranged to be cooled by atmospheric, raw material or water cooling of the outside surface...
(emphasis added).

Claim 43, lines 1-2, (which depends from claim 42) recites:

... said CO oxidation unit is arranged to be cooled by raw material cooling of the outside surface...

Claim 44, lines 1-2, (which depends from claim 42) recites:

... said CO oxidation unit is arranged to be cooled by water cooling of the outside surface...

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Applicants argue that support for the claimed features of water cooling or raw material cooling may be found throughout the originally filed disclosure, and in particular, Applicants point to the following citations:

- A. column 7, line 48 to column 8, line 17. (pages 12-13 of the response).
- B. column 15, first full paragraph. (page 13 of the response).
- C. column 23, first full paragraph. (pages 13-14 of the response).

The Examiner respectfully disagrees and maintains that the newly added limitations constitute new matter.

In order to comply with the written description requirement of 35 U.S.C. 112, first paragraph, or to be entitled to an earlier priority date or filing date under 35 U.S.C. 119, 120, or 365(c), each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure. When an explicit limitation in a claim “is not present in the written description whose benefit is sought it must be shown that a person of ordinary skill would have understood, at the time the patent application was filed, that the description requires that limitation.” *Hyatt v. Boone*, 146 F.3d 1348, 1353, 47 USPQ2d 1128, 1131 (Fed. Cir. 1998). See also *In re Wright*, 866 F.2d 422, 425, 9 USPQ2d 1649, 1651 (Fed. Cir. 1989)

The first citation A is directed to the portion of Applicant’s application which generally describes the invention, as illustrated in FIGS. 3 to 27. Looking to said figures, the CO oxidation unit is element 4. The only type of cooling illustrated in these embodiments is as follows:

Cooling from air on exposed outside surface of the CO oxidation unit:
FIGS. 3-5, 7-19, 20(A), 20(B), 21, 22, 23(A), 23(B), 24-26, 27(A), 27(B).

Cooling from the mixture of “raw material + water” supplied by path 6:
FIGS. 6

None of the figures illustrate the water cooling or raw material cooling feature of the outside surface of the CO oxidation unit 4.

It is further noted that first portion of the sentence in which Applicants have only partially emphasized in column 7, lines 55-61, specifically states,

“That is, while the raw material reforming unit is fed with the raw material and steam which are in a state of mixture through the raw material feed channel, the capability of the raw material feed channel being preheated facilitates generation of steam from water in the raw material feed channel and, therefore, water than steam can be supplied from a source of the raw material to the raw material feed channel.” (emphasis added).

The citation then goes on to state,

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“Though the method for preheating the raw material feed channel is not limited to specified one, another preheating method may be employed in which, for example, at least a portion of the raw material feed channel is held in contact with the surface of at least one of the reforming reaction unit, the shift reaction unit and the CO oxidation unit (FIGS. 3 to 6, 8 to 24, and 26). (emphasis added).

The first passage sets forth that the raw material and steam are in a state of mixture through the raw material feed channel. Therefore, the at least a portion of the raw material feed channel being described in the second passage (wherein both passages are directed to the same discussion) is at least a portion of the channel which contains the raw material and steam in a state of mixture. This is clearly shown in the embodiment of FIG. 6.

The second citation B is directed to the portion of Applicant's application which describes the eighth embodiment of the invention, FIG. 8. Looking to said figure, the CO oxidation unit is element 4. The only type of cooling shown for the oxidation unit 4 is air cooling, from the exposure of the outside surface of element 4 to the atmosphere. The water pipe 6b which feeds the supply path 6 does cool an outside surface; however, the outside surface being cooled is the outside surface of the reforming unit 2. Also, the raw material pipe 6a which feeds the supply path 6 never comes into contact with any portion of the outside surface of the CO oxidation unit 4, or any portion of any outside surface of any other reactor component for that matter.

The third citation C is directed to the section of Applicant's application which describes the twenty-fifth embodiment of the invention, FIGS. 27(A) and 27(B). In said figures, the CO oxidation unit is element 4. The only type of cooling shown for the CO oxidation unit 4 is air cooling, from the exposure of the external surface of element 4 to air that is injected into the second duct 44 via air supply passage 45. The water pipe 6b which feeds the supply path 6 does cool an outside surface; however, the outside surface being cooled is the outside surface of the combustion chamber 1. Also, the raw material pipe 6a which feeds the supply path 6 never comes into contact with any portion of the outside surface of the CO oxidation 4, or any portion of any outside surface of any other reactor component for that matter.

Applicant is arguing that by taking pieces and parts of different portions of the specification and different portions of the drawings (each of which is directed to different embodiments of the invention), one of ordinary skill in the art would have readily understood that Applicants were in possession, at the time of filing of the original application, of the newly claimed embodiment (which was never illustrated) directed to a CO oxidation unit 4 being cooled on its outside surface either solely by water or solely by raw material.

The Examiner maintains her assertion that Applicants were not in possession at the time of filing of the original application of the instantly claimed subject matter. In order to arrive at the precise configuration now being claimed, one of ordinary skill in the art would have had to take numerous steps in logic in order to arrive at the configuration. One of ordinary skill in the art would not have immediately envisaged the newly claimed apparatus based on the original disclosure. And therefore, the subject matter directed to the cooling of the outside surface of the


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CO oxidation unit with solely water, or solely raw material, was neither expressly, implicitly nor inherently presented in the original disclosure.

The Examiner wishes to further comment on a finding in Applicants' related inventions. In particular, the commonly assigned application of U.S. Serial No. 10/387,570 (PgPub US 2004/0068933), which has at least one inventor in common with the instant Reissue application, discloses an apparatus very similar to the apparatus of the instant application. Of special interest are the embodiments found in FIG. 11-19, in which the improved feature is a CO oxidation unit 4 comprising an outside surface that is cooled by a water passage 20. This is the exact feature in which Applicants are arguing for in the instant application. HOWEVER, it is noted that U.S. Serial No. 10/387,570 was filed on March 14, 2003, which was nearly 6 years after the filing of the instant application. This evidence appears to further call into question whether Applicants were in possession of the newly claimed subject matter at the time the invention was made, given that this subject matter was not disclosed until a substantial period after the filing of the instant application.

Continuation of 13.

The proposed amendments to the specification filed on April 7, 2006 have not been entered because the amendments were already entered at the time of the filing of the Reissue application (i.e., by physically incorporating the changes within the specification of the printed patent).

Jennifer A. Leung
April 21, 2006 


ALEXA-DOROSHENK NECKEL
PRIMARY EXAMINER